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ABSTRACT

This study applies an "anthropological" approach to science teaching in which language minority families work with mainstream educators in a community of learners in which traditional cultural knowledge and Western scientific knowledge blend in an inter-cultural dialogue about what should be taught. The particular context in this paper is a mainstream California elementary school as it interacts with a clan of Mien refugee families from Laos using a family literacy project and a school-community garden as inter-cultural spaces in which dialogue can occur. The target subjects are science and literacy as forwarded by the Bilingual Integrated Curriculum Project (BICOMP), a Title VII Academic Excellence Project for which the author served as disseminator/trainer during the course of this research. The focus of this paper is not on curriculum development, however, but on the inter-cultural dialogue that can occur when minority and majority voices join together to develop curricula appropriate for the children they both teach. This dialogue stands in contrast to standard forms of parent involvement, which either fail to involve language minority families or involve them only as recipients rather than generators of knowledge. (Contains 16 references.) (Author/YDS)

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by

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Building a Mien American house: An inter-cultural dialogue

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ABSTRACT: This study applies an "anthropological" approach to science teaching (Lee, 1999), in which language minority families work with mainstream educators in a community of learners in which traditional cultural knowledge and western scientific knowledge blend in an inter-cultural dialogue about what should be taught. The particular context is a mainstream California elementary school as it interacts with a clan of Mien refugee families from Laos, using a family literacy project and a school-community garden as inter-cultural spaces in which dialogue can occur. The target subjects are science and literacy, as forwarded by the Bilingual Integrated Curriculum Project (BICOMP), a Title VII Academic Excellence Project for which the author served as disseminator/trainer during the course of this research. The focus of this presentation is not on curriculum development, however, but on the inter-cultural dialogue which can occur when minority and majority voices join to develop curricula appropriate for the children they both teach. This dialogue stands in contrast to standard forms of parent involvement, which either fail to involve language minority families or involve them only as recipients, rather than generators, of knowledge (Epstein, 1995).

OBJECTIVES

Lee (1997, 1999) and Rodriguez (1997, 1998) describe how despite national standards which recommend "science for all" (1996), non-mainstream groups are often excluded from successful participation in the cultural dialogue of science because of divergent cultural views on 1) what counts as science, and 2) ways of knowing. The same problem exists in other subject areas as well. However, while the infusion of alternative views of history and of multicultural literature into curricula has been part of the dialogue in subjects like history and English for decades, less attention has been paid to the cultural nature of science and math instruction. Generally, these fields have been viewed as "objective" and "value neutral". It is the object of this article to illustrate empirically, through the use of descriptive ethnographic techniques, the highly cultural nature of science as exhibited in the interactions between Iu Mien parents and American educators as they create a school garden and field house. It is also my object to describe 1) a practical, anthropological model for inter-cultural science curriculum development in minority communities, and 2) the school and community conditions necessary to encourage this sort of exchange.

THEORETICAL FRAMEWORKS

This study merges several theoretical traditions. It is rooted in an educational anthropology approach in which schooling is viewed as cultural transmission (Spindler & Spindler, 1997) within a social context which involves families and communities as well as children. From this perspective, curriculum and pedagogy are seen not as "objective", but

rather as culture driven. Seminal works in educational anthropology and sociolinguistics (Heath, 1983; Phillips, 1983; Boggs & Watson-Gegeo, 1985; Spindler & Spindler, 1997) recognize the difficulties faced by students reared in one cultural setting and receiving schooling from another. Heath's work on Appalachian students describes how the discontinuity between the ways language was used at home and at school led to school failure among working class African American and white students. Simultaneously, middle class students from both groups, who experienced congruity between home and school discourse styles, were able to succeed. Heath's mediation was to infuse home language use and community knowledge into the school curriculum, thus creating a bridge between the students' two worlds.

As an extension of the same approach, Moll, Amanti, Neff, & Gonzales (1992) describe an ethnographic approach to curriculum development in which community "funds of knowledge" are consciously researched and brought into the school, through the work of doctoral students and teachers being trained in ethnography. McCaleb (1990) describes a reverse process, in which the school develops a family literacy approach which elicits community knowledge and helps families to form it into books which can then be shared within the school community. This project draws heavily on both traditions. Its goal is to gather community funds of knowledge and build curriculum around them, in the manner of Moll et al. Yet its approach is to use a family literacy model in which parents come to school to seek mainstream skills for themselves, rather than being approached by researchers in their homes. Parents are encouraged to serve as experts as well as learners, sharing their funds of knowledge within the school community and engaging in their children's educations in active ways.

Another tradition upon which this project is based is the Deweyian (1938) tradition of child-centered pedagogy. School curricula which are open enough to bend with the needs of the individual learner can be expanded to meet the needs of cultural groups. In the case of minority populations, Vygotsky's (in Moll, ed., 1990) idea of the "zone of proximal development" is important, since minority populations must be mentored into mainstream school practices by others already initiated to them. Conversely, cultural brokers from minority cultures can mentor teachers and other outsiders into their "funds of knowledge".

Finally, this project draws on research on school-community relations and on the notion of twenty-first century schools as community centers serving social service needs. Comer's (1996) idea of comprehensive school plans which involve families, teachers, and administrators problem-solving together; as well as Epstein's (1995) notion of "spheres of overlapping influences", have informed this work.

MODES OF INQUIRY

This study is part of a Spencer-funded dissertation which is an ethnographic case study of the relationship between the Iu Mien refugee community and the traditional California school which their children attend. This study was conducted over a three year period at a school site where the author served as project coordinator of a federally funded science-centered curriculum dissemination project (BICOMP). The author was a key player in projects which including mentoring teachers, establishing school community gardens, and working with parents. Prolonged and varied contact with project parents, teachers, and students made possible an ethnographic approach to data gathering. Video and audio taped observations, collection of parents' and students' work and of other school documents, and interviews with teachers, parents, and administrators enabled triangulation.

The specific focus of this paper is on the interaction between parents, teachers, and other school staff members during shared project activities, including teaching and learning science in the classroom, creating community books, and building a school garden and field house as an historical depiction of traditional Mien hill tribe structures in Laos. Data was collected during weekly parent science classes, held at a family literacy center, and taught by the author. It was also collected during a spring garden and house building event staged at the elementary school by family literacy center parents, assisted by school staff members.

The following two research questions guided this case study:

1) How can schools create intercultural spaces in which the voices of minority parents are incorporated into the school cultural dialogue, and how does this dialogue in turn transform the culture of the school?

2) What cultural, social, and political conditions encourage or disable efforts to incorporate minority cultural knowledge into a school instructional plan?

1) CREATING INTERCULTURAL SPACES WHICH INCORPORATE MINORITY CULTURAL VOICES

To answer the first research question, the author engaged in a series of activities designed to inquire into ways in which new immigrant Mien parents and school staff members could collaborate in teaching the children they share. In order to communicate the flavor of the dialogue which occurred during these activities, ethnographic descriptions have been included. The first description is drawn from work with parents at a family literacy center where Southeast Asian parents came daily to learn English, job skills, and parenting/life skills. The staff of this center welcomed the addition of "science" to the school skills which they were teaching to parents.

The author devised a two-way dialogue in which parents were taught the mainstream science skills which their children were learning in school, so that they could support their children, while simultaneously sharing their knowledge about the topics under study. It is common practice in constructivist science education to ask students to display their "previous knowledge" about a topic about to be studied, so that teachers know where their lesson should start. In this case, this pedagogical technique was expanded into the creation of a half hour to forty five minute dialogue in which Mien parents told the author, with the assistance of a translator, about their knowledge and beliefs about the topic about to be studied. For example, if the lesson was on how earthworms improve the soil, the author would ask Mien parents how they know whether soil is good or poor. A discussion is generated and recorded as an English reading and writing text for parents from which "community books" for use in the classroom could be generated. After this discussion, parents participated in a hands-on science lesson which their children received in school. Finally, they were invited to assist the teacher in reproducing this lesson with school children. Children are thus enabled to receive a lesson which included both the school curriculum and parents' input about their own cultural views on the subject. Through this process, parents shared their cultural knowledge with teachers, who would otherwise have no access to their thoughts, while becoming exposed to school discourse which enabled them to understand and support the school work their children brought home.

a) A lesson on plants

Since Digger Pine School (pseudonym), where most FELP parents sent their children, was planning to study garden science, the first lesson we introduced was the introductory fourth grade BICOMP lesson in a unit on plants. The point of this lesson is to communicate to children that plants are essential to human life. In the classroom, teachers begin by asking children what people need to live. When we asked the Mien parents this question, their answers were as follows:

- everything is needed, it all works together
- water
- rice
- clothes
- money
- home/shelter
- language
- English language
- meat- chicken, beef, pork, fish
- vegetables/mustard greens

- chairs and tables

The parents' answers were fundamentally like those of students in classrooms, in that important concepts about human needs were mentioned along with more frivolous ones. Two responses were interesting: the "English language" and "chairs and tables". Both these things were new to Mien people since coming to the United States, but seemed to have gained status as "things which humans need to survive."

The next question in the BICOMP plants lesson was designed as a "hook" which gets children's attention. The teacher puts a flowering plant in a closed brown paper bag and says that there is a kind of thing in the bag which gives us most of what we need to survive. Fourth grade children usually give a few wild answers but end up guessing that there is a plant in the bag. The same question was a complete stumbler to the Mien parents. The author realized that it was extremely "school-like" to create a guessing game of this sort, and was probably an unfamiliar format to them. Their answers were unrelated and variable: pan, bowl, wood, cookware, line (for fishing), beef heart, brain... No one suggested "plant". When the plant was unveiled, they were no less mystified. They could see no relationship between the supermarket chrysanthemum and anything useful for survival.

As my translator began to communicate with them, what emerged was that the category "plant" is not meaningful in the Mien language. They have many words for specific plants. For example, there are at least four names for rice, depending on whether it is in the field, harvested, cooked, or whatever. There are also many names for other plants eaten in daily life. But the Mien language does not have a general word for "plant" which would put trees, bushes, vegetables, grains, etc. in the same category. In fact, in a general sense, plants are not distinguished from animals. Both are seen as different types of living things, and each specific kind of thing is known in detail, but it does not seem important or necessary to generalize about categories such as "plants" or "bushes", rather than to talk about a particular plant or bush. There is, however, a general word for food: "ca nai nyian", which means "things that are edible to us". The chrysanthemum does not look edible and therefore the idea that it is related to our survival seemed ludicrous to them.

In this context, it did not seem useful to pursue the question of how Mien people categorize their world. The parents were losing interest in the discussion, which was preparatory to a plant part cooking activity. Of courseit would be fascinating to know more about how Mien people think , however, it is not practical in a teaching situation to record the entire belief system of the people with whom we are conversing. We do not have time, and it is not our principal purpose. It could be argued that a teacher does not need to know all the details about how Mien people classify plants in order to comprehend that they have

a valid, systematic way of seeing plants which is different than western thought and which they should pass on to their children. If we take this attitude, the implication is that parents need to be validated as teachers of their children, since there is no way that teachers who work with children from many different cultures can learn and teach home languages and cultural knowledge. These things must come from the parents. Yet teachers play an important role in validating parent knowledge by encouraging situations in which children can share knowledge at home and parents can act as experts in the classroom.

At the same time, one can argue that the kind of bridge created between teachers and parents who share at least some cultural knowledge is important to families and children alike. A perfect example is Spanish bilingual classrooms where teachers are either native speakers of the language or have made a significant effort to learn the language and culture of their students. The bonds which exist between such teachers and the families of the children they teach are very strong because the teacher has not only affirmed that languages and cultures have value in general, she/he has affirmed the specific language and culture of the community. Anita, a language development specialist at a multilingual school, reported how much it affirms her families if she learns a few words in each or their languages so that she can greet the parents when they come to school.

In addition, it is important for teachers to avoid the pitfall of attempting to teach about the cultures of their classroom from sources external to the community which may or may not reflect its attitudes and needs. A classic example of this is a teacher who attempts to affirm Mexican culture by describing life in a remote village where people grow and eat corn and chilies, only to be accosted by students from Mexico City who resent the stereotype that all Mexicans live in primitive conditions. Another funny example occurred at Digger Pine School. Christina, the language development specialist, who is an advocate of the refugee communities in her school, thought that the school should commemorate Chinese New Year, since it is also celebrated by the Mien. Conscientiously, she went to the library and found several books on the Chinese New Year Dragon Parade, and began an art project in which her students constructed an elaborate dragon costume which they could wear collectively in a school parade. Two days before the celebration, she asked some of the Mien parent leaders if they knew traditional musicians who would be willing to play for the parade. The parents responded that they would be happy to help, but that dragon parades are not a part of their tradition. They celebrate New Years by dying red eggs and weaving egg holders which can hang around people's necks or in their houses to bring good luck. Luckily, Christina was inventive and suggested that egg dying be incorporated into the New Years celebration.

b) A glimpse into two systems of thought

While the author understood in abstract terms that one should respect other ways of thinking, it was a new experience, which began the day of the plants lesson and has continued throughout the work with Mien families, to see other ways of thinking emerge from discussion of everyday life and to understand that the way westerners have been trained to see things is not the only way. The point is not to learn the Mien taxonomy of plants, which could be considered of little practical value in the modern world. The point is that experiencing the cultural nature of knowledge is transformative. This experience would later help us to understand that while western science has yielded many important understandings and technologies, it is only one window on reality. No one would say that Mien people should not learn this new western way of seeing the world. In fact, as the rest of this lesson reveals, they are eager to do so. But it would also be narrow to say that American teachers would not benefit from seeing their way. For us, as for them, the opportunity to experience new lenses is an opportunity to see more. But most importantly, as a professional who advocates a multicultural perspective, it is important to understand that my/our/any one way of viewing reality is not "right", and that other cultures have internally consistent systems for defining the world which we can learn from and have no right to diminish or dominate.

The plant lesson led to a discussion of the idea that plants are the only organisms which can make food. When told this, parents suggested various foods, such as pork and chicken, which people eat and which are not plants. We discussed each case, working our way through the food chain until it was revealed that every food has its ultimate origin in plants. (For example, a chicken might eat insects as well as grain, but the source of nutrition for insects is plants). Finally, we talked about photosynthesis, about how plants can use sunlight to convert raw materials to sugar, as well as to provide us with oxygen and absorb our carbon dioxide. The Mien parents, who have great reverence for nature, were stunned by the photosynthesis story. When it was finished, they clapped. A seventy year old woman, the shaman's wife, said "Thank you. We never put this together before".

Of course, as a teacher, it was pleasing to have the class like the story. But it was also a little sad. It was so easy to overwhelm this group of sweet and gullible people with "white man's science", yet their own profound understanding of the natural world, which does not tend to be generalized and articulated in the same way, can be so easily discredited, not only by others but also by themselves. It seems to be the nature of education to value the general over the specific, so that the teacher who knows about photosynthesis out of the book, who has deductive knowledge, appears to know more than the gardener who grows plants every day, and knows their habits inductively. Part of the

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purpose in our BICOMP science project is to reassert the value of experience as well as abstraction, and of science in daily life as well as science as it appears in textbooks and laboratories.

In order to value the Mien experience of the natural world, which they themselves might discredit in the face of impressive western technology, teachers need to have an intuitive appreciation for hands-on experience. It is also important that science be broadly enough defined that it encompasses problem solving activities in daily life. For example, we asked a Mien parent how he knew when to plant bitter melon in California, since the seasons are different than in Laos. He replied that some people had tried to grow it in winter, but it got too cold and died. They then tried planting it in March, then April, then May, and they found that the plants grew best when planted in May. This parent, who was a member of the group of people who said that they did not know the meaning of "science", had participated in a successful informal experiment. Yet it is too easy for teachers at the school to think that since this parent does not speak English or have a written language, he lacks a systematic way of viewing the world which his children could benefit from learning.

c) An anatomy lesson

The Mien and Hmong parents at the FELP were plagued by many health problems which resulted, among other things, from life without (western style) medical care in Southeast Asia. For example, hepatitis B (passed from mother to infant) and tuberculosis were common diseases in this group. The author's daughter, a young medical student, agreed to come in and answer questions about health. This discussion would accompany a presentation on the very basic anatomy and physiology lessons which their children were learning at school in the BICOMP unit on the human body. Our purpose, as usual, was both to dialogue with parents about scientific knowledge and to help them to understand the constructivist way in which their children were being taught science in school.

As with elementary children, we began the lesson by asking the twenty or so Mien parents in the room to fill in blank outlines of the human body with the organs which they thought were inside. While driving to the project, the author asked herself what she would think was in her body if she had never been to school and seen an anatomy chart. She realized that her guesses might be quite strange, and wondered what the Mien parents would think. However, when the parents made their drawings, most had quite clear representations of the internal organs. When we began to discuss the drawings by pooling information and filling out a big body chart on the board, the one cultural difference which emerged is that people said that we think with our brain but also with our heart. What was striking, however, was the detail people tended to know. After a few minutes, an obvious

reason emerged. These people had been hunters and had enormous experience killing and butchering animals. Far from having no knowledge of anatomy, their background knowledge enabled them to ask questions which far exceeded the simple anatomy lesson in the school curriculum. For example, they knew that a liver has several small parts which are not good to eat and must be removed when butchering a hunted animal. They wanted to know the names of these parts and why they were there. We quickly moved from the arrogant stance with which we began the lesson, when they as usual said that they knew "almost nothing" about the body and we were naive enough to believe them, to the position of novice in which we would so frequently find ourselves once we started the garden project. It was clear that these hunters knew a lot more anatomy than we did.

The fascinating part of the exchange was that we began to realize that there must be countless stores of knowledge which could be gathered from immigrant (and local) parents if one could create the proper bridge. In this case drawing organs in a blank body provided a concrete context in which information about bodies and health could be shared. Hunting stories of nights spent hiding in trees, waiting for wild pigs; of blowing up pig bladders like balloons and using them as toys; of feasts around the fire... began to emerge, forming a grand treasury which parents could share with their children. It is also important to note that the exchange accompanied an event which parents felt served their needs: a question-answer session about western medicine, a subject which concerns them greatly.

The "school" activity which followed the anatomy lesson involved children cutting out life-size line drawings of their internal organs, labeling them, and pasting these on large paper "anatomy aprons" which they could wear, thus seeing their organs on the outside. By the time they got to this, the parents were very excited about the hunting experiences which they could share with their children while making the aprons. By this time, the author had developed a three part lesson structure which 1) began with recording parents' knowledge about a topic, 2) showed parents through direct experience how we would teach a science lesson at school, and 3) gave parents an opportunity to do the lesson which they had just experienced in the preschool class, in their own language, with their own child. In the process, the parents practiced their English during the opening discussion, saw how science is taught in an elementary school, and practiced teaching their child in a school setting. Their children were able to participate in an activity with their parents, to learn a science concept, and to receive the information in their primary language with extra stories supplied by their parents. Perhaps most importantly, the children began to view their parents as 1) people who support and participate in their school experience, and 2) people who know things important enough to be shared at school.

The exchange seemed so rich, yet it rarely happens in schools. Why? In the first place, teachers might be like we were at the start of the lesson. They might think: "These parents have never been to school. They will not know anything about anatomy. And furthermore, they do not speak English, so how can they help in the classroom?" Few teachers would think of the connection between hunting and anatomy, which did not occur to me until it emerged from the lesson, and parents would not think of it either. When asked what they knew about anatomy, they would almost surely say "nothing". No one would probe further. The answer was "nothing" when we asked what they knew about plant science, although the parents questioned were expert horticulturists. The point is that when knowledge emerges from and is used in very different domains, it is rarely transferred between them. One role which ethnographers can play, as "friendly outsiders", (Erickson & Christman, 1998) is to find pockets of knowlege which can be shared and to connect teachers and parents through this knowledge.

d) The garden and Mien field house project

We ~~also~~ worked with several colleagues, including two young teachers from the Mien and Hmong communities, to create ~~with parents~~ a demonstration rice field, garden, and bamboo field house at a school site. The purpose of this activity from the Mien perspective was to demonstrate for their children how they had lived in Laos, and how to grow their traditional foods. The purpose for the school was to supplement the science and social studies curriculum through horticultural and building activities and through cross-cultural comparisons about food growing and technology.

The Mien house building project was an extraordinary affair in its scope and intensity. It not a small matter to build anything on school property. Predicting the need to justify the soundness and safety of our house to various school officials, we hired an architect as a consultant to assist us with structural aspects of the house. As he made clear, he was neither the designer of nor the party responsible for the Mien garden house. He was just there to keep us out of trouble. As a start, he telephoned a state agency which regulates buildings on school sites and managed to get the Mien house classified as an experimental structure which did not have to conform to normal codes.

Three Mien men volunteered to take the lead in building the house. They represented a range of expertise. The eldest was a sixty one year old shaman, named San Chiew (all names are pseudonyms), who had been involved in a lot of house building in Laos, and who carried weight in the community as a shaman and elder. The second was a forty year old man named Chu, who was outspoken and often referred to as "the lawyer" by his friends. Chu had some house building experience in Laos before escaping to Thailand. The third member of the team was Kao Fuey, son of the shaman San Chow,

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and a key player in both the garden project and the Mien community in general. Kao Fuey had some building experience in Laos as a young boy but had also done some western carpentry in Thailand and here. He served as a kind of intermediary between his elders and us.

Two student teachers about to complete their credentials at California State University were hired to serve as project coordinators. One was Kao, our language assistant for five years, who was just completing his education. He was the only Mien credential student in his cohort and one of a handful of Mien people to become teachers in California. The other was Yao, a Hmong student teacher in the program who did not speak Mien but was very interested in preserving hill tribe traditional knowledge. He often stated that Hmong and Mien are long lost brothers. Kao Fuey, San Chiew, and Chu were also paid a small fee for working on the house, since the job exceeded reasonable parent volunteer efforts. Welfare reform was under way, and these men, along with all of the Southeast Asians, were scrambling to find work which would sustain their transition off of welfare. Under the circumstances, it did not seem fair to expect them to participate in a two week volunteer effort.

The crew involved with the house building project illustrates the range of cultural brokers needed to accomplish such a task. If one imagines a chain of players who can link best with those closest to them on the chain, it would go as follows. At one end of the chain is Joshua the architect, who is an American "expert" linked to the culture of building regulations and who can assist us with the school's building and grounds people. Then comes me, a project coordinator, responsible to my own curriculum project and to the school administration. Next come Kao and Yao, who have one foot in western culture as newly educated school teachers, and one foot in the hill tribe cultures of their origins. While Kao speaks the Mien language and understands his group's cultural perspectives, he has no experience building houses or gardening in Laos, since he fled to Thailand at four years old and remained in a refugee camp until age 12, at which time he immigrated to the United States. Yao has equally little experience in Laos, having been carried across the Mekong River as a baby on his mother's back, thus surviving because of an act of bravery on her part which makes him constantly grateful to his elders, and, by implication, to Hmong traditions. Finally we have the house builders themselves, who also represent a range of American and Mien cultural literacies. Kao Fuey speaks some English and has done some American construction work. Chu has learned a little English by attending FELP and has some Laotian experience. And San Chiew at sixty-one is less physically able to build and speaks no English, but possesses the most expertise as an elder and a traditional builder. Within this chain, we have two experts- Joshua and San Chiew- each

claiming expertise in a different culture of building. The discrepancy between these two sets of expertise emerge as the project progresses.

The first request of the architect was that the house builders draw a plan of their proposed house. None of the three builders felt that they knew how to do this, or that it was necessary. Kao and Yao, being intermediaries, filled in the gap and agreed to build a model of the house, constructed out of popsicle sticks. They built their model under the direction of Kao Fuey, and received the approval of Joshua. However, since the popsicle sticks did not really represent the materials which would be used, other problems later emerged, as described below.

Once a general floor plan for the house was set, the next project was to acquire materials. Traditional materials for such a project are plants growing in the Southeast Asian forest, including giant bamboo and palms. These materials are not available at Ace Brothers Hardware. The builders tell us that while giant bamboo is their favorite structural material, the house will be strong and relatively traditional if its frame is built of rough saplings. Luckily we found a ranch upon which young Eucalyptus saplings could be cut. Early one May morning, to avoid the heat of the day, the five builders and the author, accompanied by two pick up trucks and several small saws, drove one hour to the ranch and gathered two truckloads of long poles, some stout and some fairly thin. Six strong poles were chosen as the main supports. That afternoon, Joshua came to see our materials. He said that the poles would need to be set four to six feet deep in concrete footings. Our first cultural crisis occurred at this point. The Mien builders said that they never used concrete and that it would not be necessary. Joshua said that the soil was sandy and the structure would not be strong unless concrete was used. Kao attempted to mediate, pointing out that while Laotian garden houses only need to last for two to three years, before the garden is moved (the length of time for which a field remains fertile when slash and burn techniques are applied in the tropics), that we wanted this field house to last for ten years. Also, Kao Fuey compromised, the soil in Laos was clay and could be pounded to be like cement. The sandy soil at the school garden would provide little structural support.

The Mien builders announced that the house building would take longer than they thought, since cementing the posts would require an extra day. In addition, we explained to them that we wanted schoolchildren to watch and participate in the house building. Children could help mix and pour cement, and the house building project should only extend from 8:30 A.M. until 2:30 P.M. each day, so that the classes of children could take turns coming out to watch. The timing of the building project shocked the Mien men, who were used to helping each other build houses in large groups. They would build a

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structure in two days, sometimes working day and night, since relatives and friends would often travel to help and would want to stay away from home the minimum possible time. After the house was completed, the family benefiting from it would give a feast for the builders. After the day of cementing, the Mien builders were demoralized, and Kao and Yao informed us that the unexpected expansion of the project called for a small feast. It would be the author's obligation as project coordinator to prepare the feast, but they did not think that the men would accept anything but traditional food. Hence, we all needed to go to a Lao/Thai restaurant to eat noodles together, an event which would become a pattern during the building project. The noodles seemed to set the world in order.

e) What makes a house strong?

The day after the noodle lunch, the team began framing the house, using the cemented posts as the initial structure. Joshua came by in the morning and said that the framing would need to be attached together with bolts and, secondarily, with nails, not with tied ropes or vines as was the traditional style in Laos. This information caused a second cultural crisis. Bolts could only be applied with a large cordless drill. We rented one. No one had seen such a thing before. In general, the men were experts with hand tools, although Kao Fuey had used an electric saw. Chu climbed on a ladder to drill the first hole in saplings linked to create the roof beams. He drilled a hole through the wood, then did not know how to get the tool out. When we told him to reverse the drill, he watched with stunned disbelief as the tool neatly unscrewed itself bit by bit. He smiled broadly, as did we all. By the end of the day, the frame was up. Joshua was scheduled to come and inspect it in the morning. Everyone went home happy, and Kao returned the drill.

The next morning Joshua was at the site, and the men did not look happy. The saplings creating the framing for the house were irregular in size, as saplings are, and some were too small to fit the specifications which Joshua had recommended. The men argued that the building was strong enough to stand, that they had been building houses for hundreds of years and no one remembers one falling down. They were shocked at being criticized because they had already compromised on the cement and the screws. Joshua said that in a school yard, a building needed to be strong enough to sustain the weight of children jumping on the roof, should they choose to do so after school hours. San Chiew represented Mien values when he said that no child should climb on a roof, that none ever did in Laos, and that if a child was thoughtless enough to do so, he deserved to fall down. He was incredulous when Kao translated the message that if a child falls down, it is the school who is held responsible and could be sued. San Chiew said that it was more important to teach children respect for houses than to prepare for the possibility of their bad

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behavior. Chu displayed his anger by hanging off the roof beams one by one, swinging between them like a monkey, to illustrate that the house was strong. Kao and Yao looked very upset. They told me that they felt that the project was insulting their elders, something which they could not do. Their elders knew how to build. We had said that they were experts and that we needed them. Now we were criticizing their judgment.

Obviously the situation was very difficult for the architect as well. He was not a rigid professional. Only a liberal architect, used to building solar houses and alternative structures of various sorts, would have agreed to get involved in this project in the first place. Yet he had to enforce the rules about the strength of structures. Unfortunately he also chose this moment to suggest that the doorways should be wide enough for a wheelchair, so that the house would be handicapped accessible. This is where the Mien builders drew the line. "Now we are stopping having a Mien house," said Kao Fuey. The Mien view of handicapped people is very different than the American view. Whereas Americans want to make handicapped people independent by creating special structures, Mien people believe that everyone is interdependent, and that it is everyone's responsibility to take care of people who cannot walk or need help in whatever way. The Mien have a direct personal relationship with members of their group who have special needs, and will care for them for life.

One might ask why we had not been better at predicting the problems which emerged between the Mien builders and the architect. The problem stemmed partly from different patterns of planning. When American architects or builders draw plans for a building, they know exactly what materials they need and how big they will be. Everything is measured in standard ways, and there are few surprises. For the Mien, measurement is more casual. Lengths of bamboo or string are used to approximate the amount of wood needed. In this case, the men had underestimated the size and number of saplings they needed. On the other hand, they had not predicted the architect's strict specifications about the diameter of each structural piece. It was hard for Kao, Yao, and the author to predict problems because we knew neither what the Mien fathers were going to do nor what standards the architect would apply. It was only after things were done that we could all see each others' ideas. By that time, things often had to be done over.

Another cultural conflict was caused by the Mien builders' attitude as members of a sustainable society as opposed to that of the architect as a member of a technological society. This conflict is illustrated by an incident which occurred during the house framing process. Kao Fuey was measuring a sapling to use it as a roof beam. It was too long. He held it up to see how long it needed to be, then proceeded to cut off the large end rather than the small end of the sapling. Joshua, who happened to be watching at the time, was

incredulous. "Why didn't you cut off the small end, since we are trying to make the house stronger?", he asked. Kao Fuey responded that we were almost out of four inch nails, which were needed to hold the largest saplings onto the frame, but that we had a lot of three inch nails, so he was using smaller wood to conform to the nails. The hardware store was two blocks away, and nails are not an expensive item. Yet Mien people try to "make do" with what they have. This quality was in fact central to their survival in Laos as an isolated, self sufficient people who bought almost nothing. They are ingenious at saving seed and using found materials to prop up their plants in the garden, thus avoiding almost any expenditure. Yet in the case of modern building priorities, Kao Fuey's logic was mistaken. The architect wanted him to use the strongest saplings available, even if it meant another trip to the hardware store to get nails.

The crisis over the strength of the house frame was the low point in the building process, because it meant that the men would have to make another trip to the ranch to get more saplings. The trip alone was an extra day of work, and replacing several members on the frame would take at least an afternoon. Chu came up with an interesting line. He said that if we were no longer building a Mien house, we were building an American house. An American house hires laborers rather than "experts", and they have to be paid more. Chu really was a lawyer. Kao and Yao came up with a compromise, that did involve both raising the fee paid to the builders, especially that paid to Kao Fuey since his truck would be employed to haul the extra wood, and another visit to the noodle shop. After eating noodles, the men were happier, but Kao and Yao were still concerned about the relationship between this project and possible disrespect for traditional cultural knowledge. They were particularly hurt because San Chiew had said that while they would be able to cover up the non-Mien features of the house, such as the screws (which would be covered with cord) and the cement (which was covered with sand), that they the house builders would know that this was not really a Mien house. Finally Kao and Yao resolved that what we were really building was a Mien-American house, an intercultural space as was the garden itself. Such a house is based on compromise.

The conflicts with Joshua the architect, who was merely trying to predict the problems we might have with school officials, were exacerbated by the Mien and Hmong hatred of regulation. Although Mien in particular like to be a harmonious people, who avoid conflict with local authorities in the United States as well as in Laos, all of the hill tribes value independence. In fact, the word "Hmong" means independence. The hill tribes existed for hundreds of years in the jungles of Laos, after their exodus from China, by being resourceful at using the plenty provided by a wild land. There were no regulations on hunting and fishing, no building codes, no taxes save those they levied on

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fellow villagers to provide a safety net for the poor. People farmed land which they claimed from the jungle rather than owned by deed. Unfortunately, wildlife have not fared well in hill tribe territory, with many species hunted to extinction. Yet the point is that these people are unused to consulting authorities about how to build a house.

f) The magic of timber bamboo

When it came time to put the sides and floor on the Mien house, a new dilemma emerged. The Mien builders said that they used bamboo to side their houses. We imagined that we could use the small bamboo which many people have in their yards, or even the wild cane bamboo which grows prolifically in the countryside. However, the Mien builders informed us that cane bamboo will create a house which "makes people itch". What was needed was timber bamboo, which is at least eight inches in diameter and forty to fifty feet tall.

The house builders knew what to do. They began to "hunt" the streets of our large metropolis, looking especially along rivers and streams, for timber bamboo. The task seemed daunting to me, but they are used to hunting. Finally a grove of timber bamboo was located along a river in a very elegant neighborhood. Kao and Yao approached the owner of the house next to this grove, a young doctor, to see if he would be willing to sell about thirty trees. He said "yes", but even when they showed their CSU student body cards, he did not believe that they were teachers in training working on a school project, nor would he believe the parents with them. The author had to go to his house in person to buy the bamboo.

The experience of the bamboo harvest opened our eyes to how different people are treated in our society. Two truckloads of men, including Kao and Yao, went to the doctor's yard to harvest the bamboo we had bought. Within five minutes, the next door neighbor was out in front of the house, recording the license plates on their trucks so that she could report them to the police. When the author walked over to her and explained the project, she calmed down. Even though I was dressed in work clothes, she believed me but did not believe Kao and Yao. During the two or three hours needed for chopping down the bamboo trees, cutting them into sections, and loading them into the trucks, I had to stand out in front of the house to tell passersby that the operation was legitimate. At least two other neighbors came to inquire. I can understand their desire to protect their neighborhood from vandalism, especially when timber bamboo is a valuable commodity, but the interesting part of the experience was that I was credible, as a middle aged white woman dressed in work clothes, whereas none of my Southeast Asian companions were.

As soon as the bamboo arrived at the project, everyone's mood improved. The Mien fathers knew how to weave elegant designs with bamboo, which they split adeptly

and made into strips of various sizes. They wove two beautiful doors for each side of the house, and covered the walls and the floor of the sleeping loft with split bamboo. The green bamboo gave off a faint green light and a fresh smell, making the small house come to life as a kind of oasis. Teachers, students, and visitors who had heard about the project began coming to the house to look at it. At about this time, the summer institute began. The Mien builders began stopping their work to demonstrate their tactics for splitting bamboo with small knives, and showed visitors how they could build things like shelves, cups, ladles, and even chop sticks out of scraps of timber bamboo. The principal of summer school came to sit in the house, and said that it had a spiritual quality. Encouraged, Mien parents began to demonstrate how they would keep house in a garden house in Laos. They asked Kao and Yao to haul in three large river rocks of a certain dimension, to make a fire pit. The stones could be used to hold a pot for cooking, and sometimes the fire between them was used directly to cook eggplants and other vegetables wrapped in bamboo. Mien parents, including the builders and their wives, began to smoke vegetables each day to create tasty snacks for summer institute teachers.

At the end of one day, Kao and Yao were seen standing by the house, looking out on the verdant Mien demonstration garden, which now had knee high rice and waist high corn. Yao said: "This is how a house should be. This house makes you feel good." Everything visible from the door of the house looked like a Lao village: a pattern of garden plots, well tended and green. It was hard to believe that the freeway droned in the background, only fifty feet away, and that a small colony of homeless people lived in the ravine beneath it. A visitor suggested that one could pretend that the freeway was a distant waterfall.

g) The roof: a final compromise

Although the house was usable, being under a large tree, it needed a roof. This posed another dilemma concerning materials. The traditional material for roofing a Mien house is palm fronds. The leaves from at least two palm trees would be needed to make the house waterproof, and these leaves would have to be replaced annually. One teacher offered an unwanted palm from her house, but the offer involved taking down and removing the entire tree. The Mien elders got together and decided that a steel roof was the proper solution. After the conflicts over cement and bolts, we were astonished. However, they reasoned that even in Laos, people nearer the cities were beginning to use metal roofs because they last so long. Although people used certain tools and materials for hundreds of years, Kao Fuey stated that even in Laos, Mien were adapting to new tools and materials when they were available and worked well. "This house is a compromise," he said. "Just like we are compromising to fit into this culture. This house is like our lives."

Kao Fuey and the author went to a hardware store to buy sheets of corrugated steel roofing for the Mien house. He had brought with him two strings, carefully measured to represent the length and width of the roof. The clerk at the hardware store was disdainful of Kao Fuey and his strings. "People come in here with these strings, and they're always wrong," he said. "You need a tape measure." Kao Fuey replied that he had a tape measure at home but preferred strings. Once again the different ways in which people can be treated became apparent. Kao Fuey was treated with extreme disrespect by the hardware store clerk because of his broken English and his different way of measuring. It must be terrible for Kao Fuey, who speaks four or five Indochinese languages and is the son of a shaman, to be treated that way.

After the roof was applied, the Mien garden house was finished. Everyone wasvery proud, and we held our summer institute lunches in its yard. Some people ate in the house, relaxing in the shade. The house builders did some final gestures. Kao Fuey showed us a split bamboo which ran from the faucet near the house to a garden patch nearby, where the Mien parents were trying to cultivate three timber bamboo roots. Each piece of bamboo was fit into the next, neatly, to form a long pipe. "This is a Mien irrigation system," he said.

San Chiew hung a sacred object against the wall of the house. It consisted of a special rock on a string with pieces of paper with Chinese writing on them tied at intervals along the string. He said that if anyone was sick in the house, they could mention possible cures and when they mentioned the right cure, the string would move. After showing us his sacred object, San Chiew motioned to Kao and I that he wanted to show us something. In the back corner of the house kitchen, which was occupied by a set of bamboo shelves which went to the ceiling, San Chiew had used the last bag of cement, which was extra, to pour a floor for the cabinet. He pointed proudly at the patch of clean floor and said, "Cement good". We all laughed, remembering the controversy with the architect.

2) What makes a project like this possible?

After the funding ended for the projects described above, extensive interviews were conducted with parents, teachers, and administrators who had been involved in the project, as well as with teachers who had chosen not to participate. A group of Southeast Asian parents who met after the garden and house-building project expressed their appreciation for school activities which enabled them to share their experiences. They said that they would participate in their children's classrooms if they could a) use their primary language, b) tell traditional stories, c) demonstrate gardening or cooking techniques, and/or d) work with students on community books and other projects at a special table in the room. When asked what teachers could do to make them feel comfortable, they mentioned "be flexible"

and "communicate and plan together." Parents were particularly grateful for the family literacy project, which enabled them to attend their children's school to learn English and job skills themselves, then facilitated the link between their studies and those of their children.

Teachers involved in the project noticed academic improvement on the part of students whose parents were now serving as "experts" in the garden and housebuilding activities. The language development specialist at the school noted that children from families involved in the garden project became more engaged and successful in school themselves, even in the case of students who had been struggling before. Young Southeast Asian teachers made the following comments:

I want my students to see things not just the way school sees it- to see things as a whole, not just as one little portion. School should involve working with the community to help build a positive learning environment for kids. We should always keep the kids in mind, not the teacher's philosophy or district standard. If you just teach kids to pass the tests, you don't teach a whole world view. Some kids are good at passing tests, but if you ask them about the world around them, they know nothing. They need to know about the community and about the natural world around them. Schools and communities need to work together to help kids to pass the test and to learn about community life-- not just one or the other. It all goes back to the whole. People need to feel responsible to the whole. The world is like a pie in which we each fill in our part. Kao

The more we involve the parents, the more they do, the better the kids will be. Mien kids have low self esteem because their parents are illiterate in their language, and kids feel like their parents can't help them with school work. We at school need to show that their parents are not dumb, that they know things we do not know. We must give them chances to teach their expertise. They kids will say: "my parents do know something. They're not the dummies I thought they were." It will boost the kids' self esteem, and the parents' self esteem as well. And when parents come to school, they begin to see how we do things too. Yao

However, not all teachers were enthusiastic participants in the projects. Their response seemed to be based on their basic definition of their roles. Teachers most concerned with the transmission of basic curricula and with success on standardized tests tended to feel that extra projects involving parents distracted them from their goals. These teachers expressed the sentiment that "schools can't be everything" and that providing family literacy and expanding school-community relationships overburdened already taxed staff members. On the other hand, many teachers expressed the need for school's role to expand to meet increasingly complex community needs. Teachers who took this view included Southeast Asian and other minority teachers who considered themselves bridges between minority children and families and their schools; teachers who favored "caring" schools (Epstein, 1995), in which children can be nurtured as whole people; and teachers

who considered themselves "change agents", working to empower minority communities. Administrators fell into similar categories, some favoring "twenty first century schools" in which a variety of family resources are housed, others forwarding a return to standards and basic education.

RESULTS AND CONCLUSIONS

The project was successful in involving a group of parents who had not before become engaged in their children's schooling due to language and cultural barriers. It was also successful in providing access to community cultural knowledge to a group of mainstream teachers, who were then able to incorporate this knowledge into their curriculum.

Two important insights emerged from the project. The first is that when two sets of people from different cultural backgrounds work together, they not only share their two worlds, but also begin to create a third world which is inter-cultural and incorporates features of both. The "Mien-American house" became symbolic of this synthesis. Inter-cultural experiences are highly transformative and challenging to all participants, because members of each heretofore closed group must consider new ways of operating and cannot assume that their own way is the only way. Such experiences differ both from situations in which teachers accommodate and reproduce families' cultures, and from ones in which teachers initiate families into mainstream ways. The difference is that there must be a real feeling of compromise on both sides. For example, although Mien fathers preferred to build the house efficiently, without children's help, and in their own time frame, they had to compromise in these and many other ways, including the strucure of the house itself. Similarly, teachers who held "constructivist" beliefs about how to teach garden science had to accommodate Mien parents' firm belief that seeds should not be wasted through experimentation, and that learning could occur through apprenticeship. Both parents and teachers involved in this project became more conscious of their own cultural biases and of new possibilities. In the process, children were assisted in bridging the previously enormous gap between the two cultures in which they live each day.

The second insight is that intercultural activities can only develop in environments which are flexible and in which all parties have true, intrinsic motivations to grow beyond their boundaries. Although they need assistance to do so, refugee parents are highly motivated to cross into the world of school, because they are committed to their children's success. However, they must be brought in on terms they understand. As one parent said, "we do gardens, we don't do meetings." When parents begin with tasks which make sense in their world, their presence in the school enables them to broaden into other areas. For example, Mien parents who came in first to tell oral stories were soon learning to type them

on computers with their children. It should also be noted that while immigrant parents care a great deal about their children's success, they are unfamiliar with the school skills which these children need to succeed. Family literacy programs, which introduce parents to English literacy and math skills, help parents to understand the content of their children's educations, so that they are not left behind as their children succeed.

The willingness of school staff members to incorporate minority communities is tentative and depends on 1) administrative approval for this behavior and 2) flexible curriculum standards which accommodate community knowledge. Researchers can assist as cultural brokers on both sides of this process. It should be noted, however, that the current trend toward standards-based education, measured by standardized tests, undermines programs which value or incorporate minority community knowledge, minority languages, and even minority families themselves in the school instructional plan. However, as language minority and low income schools struggle, as they must, to enable their students to gain the academic skills they need for mainstream success, science, literacy, and social studies projects which incorporate parents as bearers of community knowledge can create intercultural experiences which validate children's and families' lives. The author and a colleague are currently involved in a Spencer-supported teacher research project focused on oral history as a methodology for incorporating parents as bearers of knowledge into the curriculum of a diverse school.

SIGNIFICANCE OF THE STUDY

California leads the nation in a trend towards diversity (Trueba, 1989). One in four California school children enters school from a family where a language other than English is spoken. The importance of parent involvement is well documented as a force in children's school success, yet few programs are successful in involving language minority parents in their children's schools in meaningful ways. Parent involvement is most successful when it relates to the academic life of the child, rather than just to the maintenance of the school. This study offers a model for family literacy-based parent involvement in which parents become not only recipients of academic knowledge, but also expert teachers.

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